



**107% efficient, 100% of the time.**



## **REMEHA QUINTA ECO PLUS**

Passive Flue Gas Heat Recovery Heating and Hot Water System

**QEP 65 QEP 90 QEP 115**



## THE REMEHA QUINTA ECO PLUS (PFGHR)

Groundbreaking, full time, super condensing system.

The Remeha Quinta Eco Plus (PFGHR) system improves operational efficiency for space heating applications by up to 11.5% of the gross energy input, delivering a seasonal efficiency of 99% GCV (107% NCV) 82/71°C.

The latest Passive Flue Gas Heat Recovery (PFGHR) technology ensures full time condensing is achieved irrespective of primary circuit temperatures, making it the perfect solution for a wide range of commercial heating requirements.

### How it works

The system brings together the market leading Remeha Quinta Pro boiler with the most advanced PFGHR technology, the groundbreaking Remeha Eco Plus.

Eco Plus recovers the hot flue gases that normally exit the boiler straight to atmosphere and passes them through a heat exchanger. The recovered energy is then held in a heat store and used to pre-heat the cold water feed.

This significantly reduces the amount of energy required for the boiler to heat the water to the required temperature, leading to major efficiency savings.

The energy contribution from the Remeha Eco Plus is not dependent on variable external factors such as geographic location, weather conditions and/or over-shading.

Each time the boiler operates energy is recovered from the flue gases automatically

The heat exchanger and the heat store are both constructed from stainless steel and have no moving parts, making them virtually maintenance free.

### Tried tested and proven

The Remeha Eco Plus has been independently tested by respected industry bodies, including TNO and Gastec. Analysis by TUV NEL confirms the system costs less to run, and pays back quicker, than both stored hot water and solar thermal systems.

### The difference between thermal and combustion efficiency

**Combustion efficiency** measures the fuel to heat transfer within the boiler.

**Thermal efficiency** measures the energy delivered as useful heat by the boiler and system combined.

The best overall appraisal of potential equipment is achieved when you consider seasonal and thermal efficiency together.

In this scenario priority should be given to the seasonal efficiency figure as this gives the best indication of useful energy delivered.

The Remeha Quinta Eco Plus maintains seasonal efficiency at the maximum of 107% NCV across all differential temperatures.

### Everything you need in one simple package

The Remeha Quinta Eco Plus (PFGHR) system includes:

- Quinta Pro boiler
- Passive Flue Gas Heat Recovery units
- Safety valve set at 3bar
- Drain valve
- Gas isolation valve
- Pre-wired pump
- Earth bonding
- Quinta Pro boiler/Eco Plus intermediate flue header
- Combined condensate collector

Purpose made Flue Headers with vertical or horizontal outlets are available as optional extras.

Each system contains a set number of Passive Flue Gas Heat Recovery units depending on output.

| System Output         | PFGHR units |
|-----------------------|-------------|
| Quinta Eco Plus 65kW  | 2           |
| Quinta Eco Plus 90kW  | 4           |
| Quinta Eco Plus 114kW | 4           |

### Packaging

The whole system is supplied on a purpose-made pallet complete with integral ramp to enable transport via a forklift.

The Remeha Quinta Pro boiler and Eco Plus Passive Flue Gas Heat Recovery units are housed in a purpose-made powder-coated frame.

Multidirectional wheels and adjustable legs make installation, quick and easy. Levelling feet ensure secure positioning.

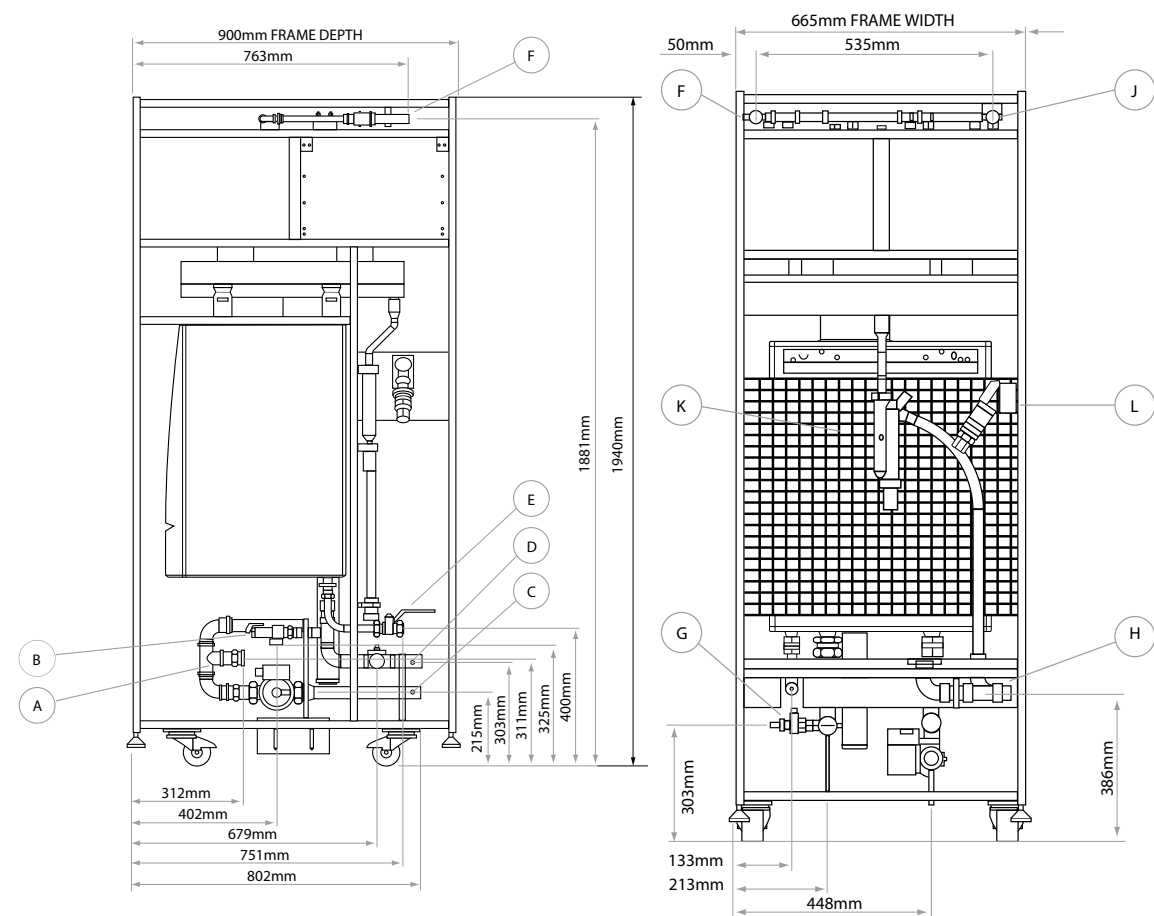
The system pipe work can be pre-made and the final connection made once the unit is in position.

**WARNING:** When removed from the transport pallet and packaging, the unit should only be moved on the multidirectional wheels on a flat level surface and must be kept upright as there is a tipping risk until the frame is fixed to the floor (brackets supplied).

### BENEFITS AT A GLANCE

- **Total heating and hot water solution**  
Can be tailored to any number of different installations
- **Full time, super condensing system**  
Delivers seasonal efficiency of 99% GVC 82/71°C
- **Industry-leading PFGHR technology**  
Recovers approximately 11.5% of gross energy input
- **Lower emissions and fuel consumption**  
Out performs current best practice solutions
- **Modular and scalable**  
System efficiency matches individual building demand
- **Pre-configured and tested**  
Fast changeover from old to new, simply wheel-in and connect
- **Compact, flexible design**  
Allows efficient use of plant space, 690(W) x 1080(D) x 1942(H)
- **Low cost flueing**  
Suitable for use with standard uPVC flueing systems
- **Eligible for Carbon Trust Loan Projects**  
Benefit to be advised
- **Enhanced Capital Allowance (ECA) listed**  
Write off 100% of capital cost against taxable profits in the first year
- **Wide range of applications**  
Choice of 65kW - 90kW - 115kW outputs to suit all sorts of commercial applications
- **Maximum seasonal efficiency**  
Maintains 107% NCV across all differential temperatures

Technical description

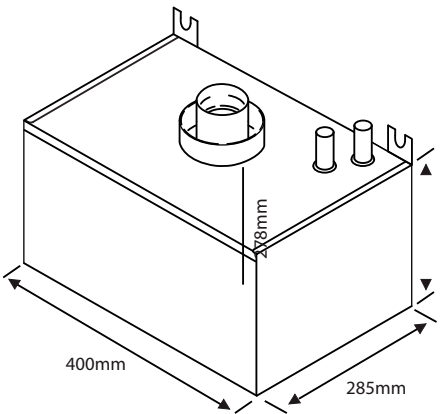


| Designation | Connection Description | Connection Size | Connection Type          |
|-------------|------------------------|-----------------|--------------------------|
| A           | Primary connection     | 35mm            | Compression              |
| B           | Safety valve discharge | 3/4"            | Female BSP               |
| C           | Boiler return          | 35mm            | Pipe                     |
| D           | Boiler flow            | 35mm            | Pipe                     |
| E           | Gas inlet              | 22mm            | Compression              |
| F           | PFGHRD outlet          | 22mm            | Pipe                     |
| G           | System drain           | 1/2"            | Hose union               |
| H           | Condense drain         | 32mm            | Solvent                  |
| J           | PFGHRD inlet           | 22mm            | Pipe                     |
| K           | Condensate drain point |                 |                          |
| L           | Appliance socket       |                 |                          |
| *           | Flue outlet            | 100mm           | Standard flue connection |

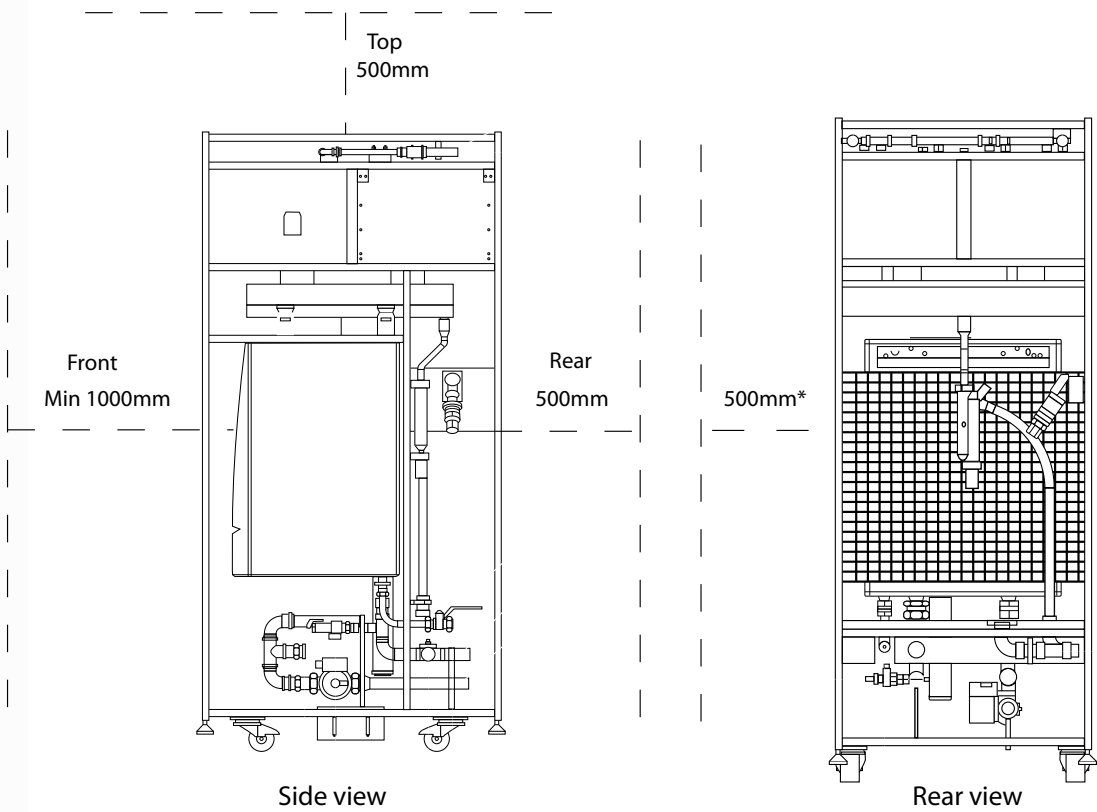
Passive Flue Gas Heat Recovery unit (PFGHR)

| Details of the PFGHR unit     |                       |
|-------------------------------|-----------------------|
| Max Inlet Pressure            | 6* bar                |
| Min Operating Pressure        | 0.2 bar               |
| Max Flow Rate (l/min)         | 20 per unit           |
| Min Flow Rate (l/min)         | 2.5                   |
| Connections Inlet (mm)        | 15 (Stainless Steel)  |
| Connections Outlet (mm)       | 15 (Stainless Steel)  |
| Casing H / W / D (mm)         | 278 / 400 / 285       |
| Installation Lift Weight (kg) | 15.6 (Full Weight 24) |
| DHW H/Exch                    | Stainless Steel       |
| Store & Flue Connection       | Stainless Steel       |
| Casing                        | White Paint - Steel   |
| Condensate Store              | Capacity 5.5 litres   |
| H/Exch Coil                   | Capacity 2.7 litres   |

\*If required fit a pressure reducing device



Installation and Service areas



\* Only required if access to rear of unit is restricted

## Flue details

NOTE : Conventional flue option only. (B23, B23P, B33)

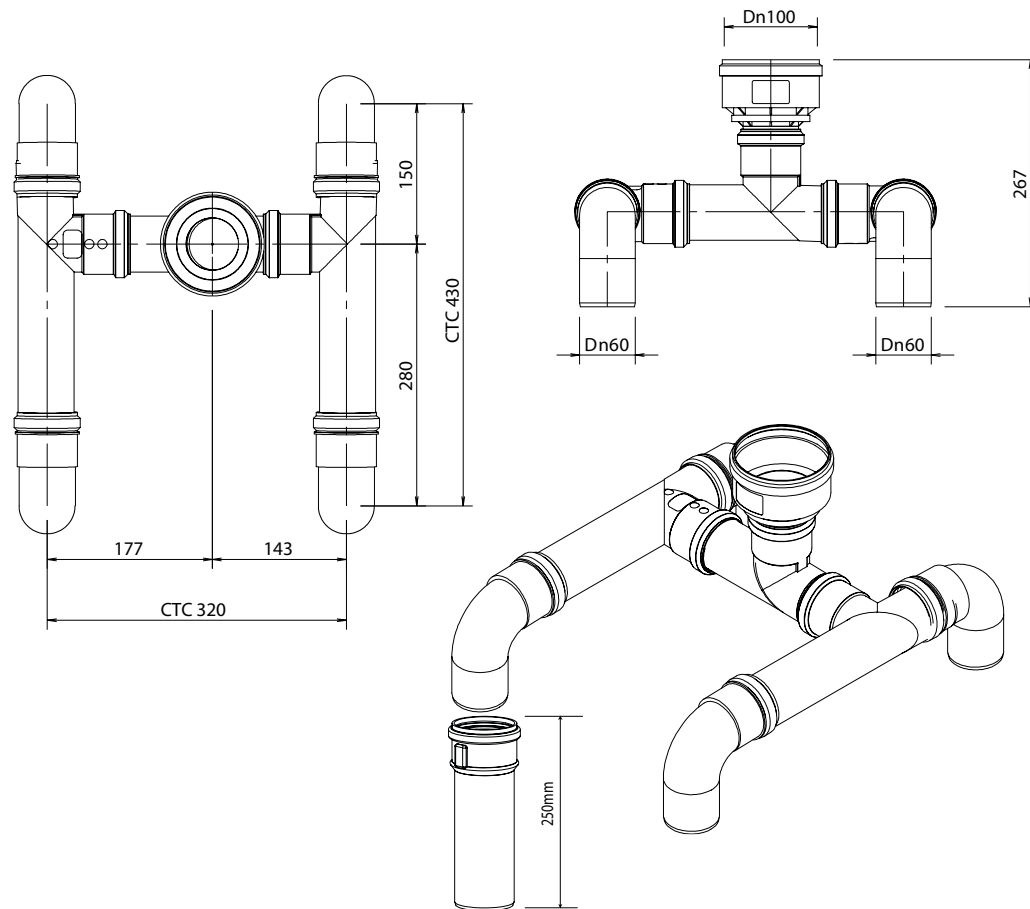
Flue components must be CE approved. and installation must comply with current British Standards 6644/IGUP10 and BS5440. Vertical termination only.

| Flue length | Conventional flue |        |         |
|-------------|-------------------|--------|---------|
| Diameter    | QEP 65            | QEP 90 | QEP 115 |
| 100mm       | 27m               | 24m    | 17m     |

| Flue length | Reduction per elbow used |           |
|-------------|--------------------------|-----------|
| Diameter    | 45° Elbow                | 90° Elbow |
| 100mm       | 1.4m                     | 4.9m      |

For flue lengths longer than details listed, please contact our Technical Department on 0118 974 3076.

## Standard flue header details



## (PP) 100mm Plastic Flue Component details



Condense Trap  
No. MG410085130



Extension Piece  
with sampling point  
Part No. 410085129



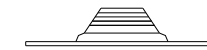
Tee piece with  
condense drain  
Part No. 410085148



45 Elbow  
Part No. MG410085142



90 Elbow  
Part No. MG410085141



Weather plate  
Part No. VE001



Wall bracket  
Part No. MG410071902



Air cover for  
100/150 terminal  
Part No. MG410075439



Extension Piece  
250mm Part No. MG410085480  
500mm Part No. MG410085481  
1000mm Part No. MG410085482  
2000mm Part No. MG410085484



Vertical terminal  
MG410084862

NOTE: Plastic flue components are suitable for internal use only.

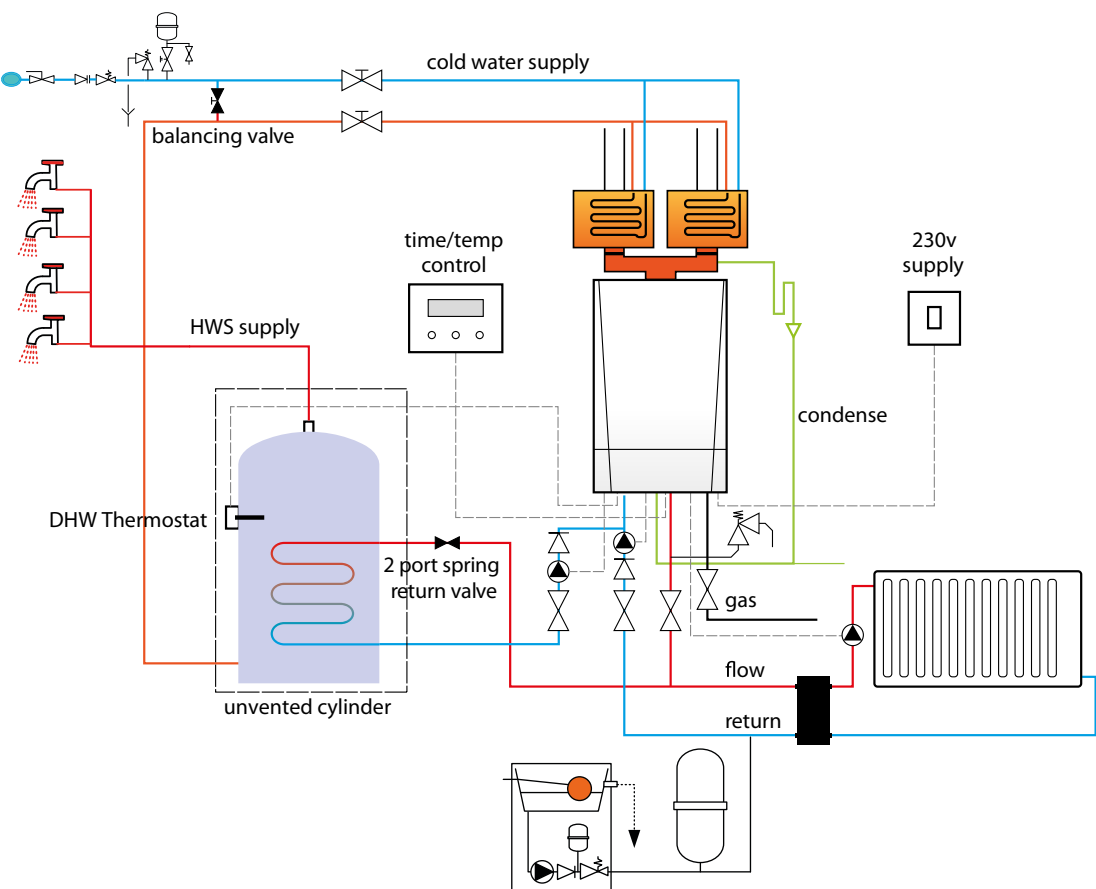
## Metal components

Extension piece 1000mm MG87062  
Extension piece 500mm MG87061  
Extension piece 250mm MG87060  
90 Elbow MG87113  
45 Elbow MG87103  
Wall bracket MG87193  
Bird guard (termination piece vertical termination only) PU001

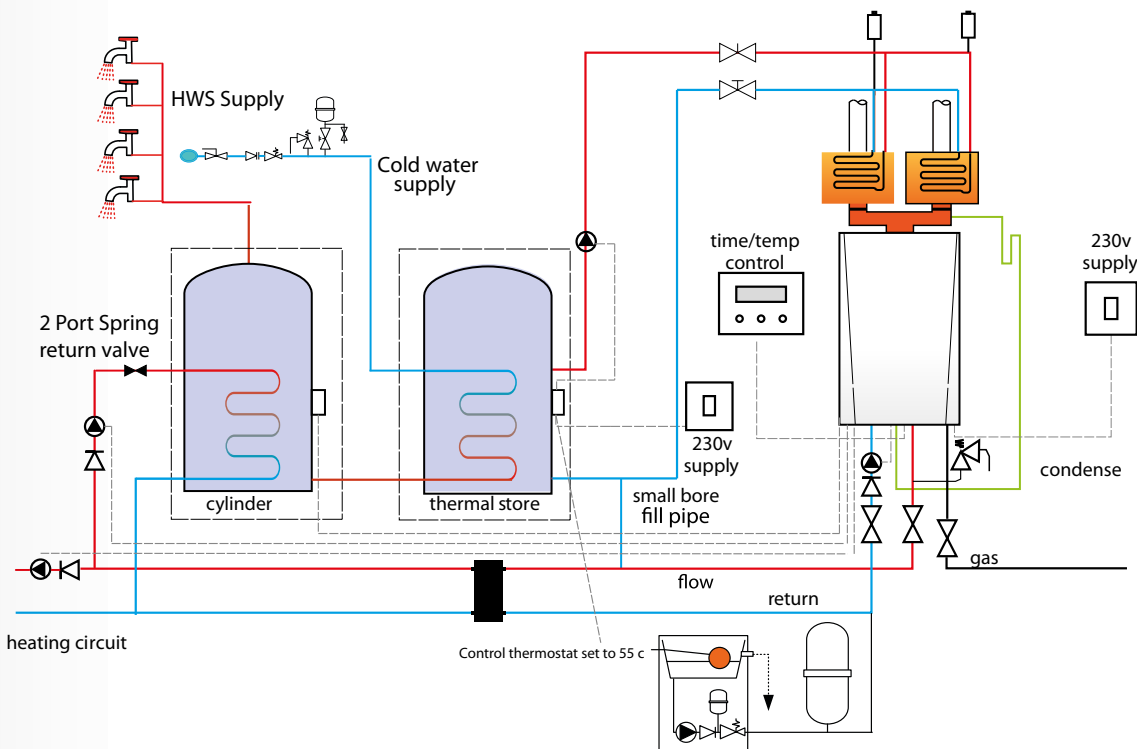
# Installation guide

Typical installations shown below do not constitute a full system design and should be used for general concept information only, as not all components are shown. All equipment including boilers and cylinders must be installed to manufacturer's instructions and must comply with current building regulations. The heating and hot water schematics are also shown in our Quinta Pro Suggested Control and Power Wiring Manual with accompanying electrical wiring diagrams. Pipework from shunt pump to loss header to be calculated to the suit duty of the supplied pump.

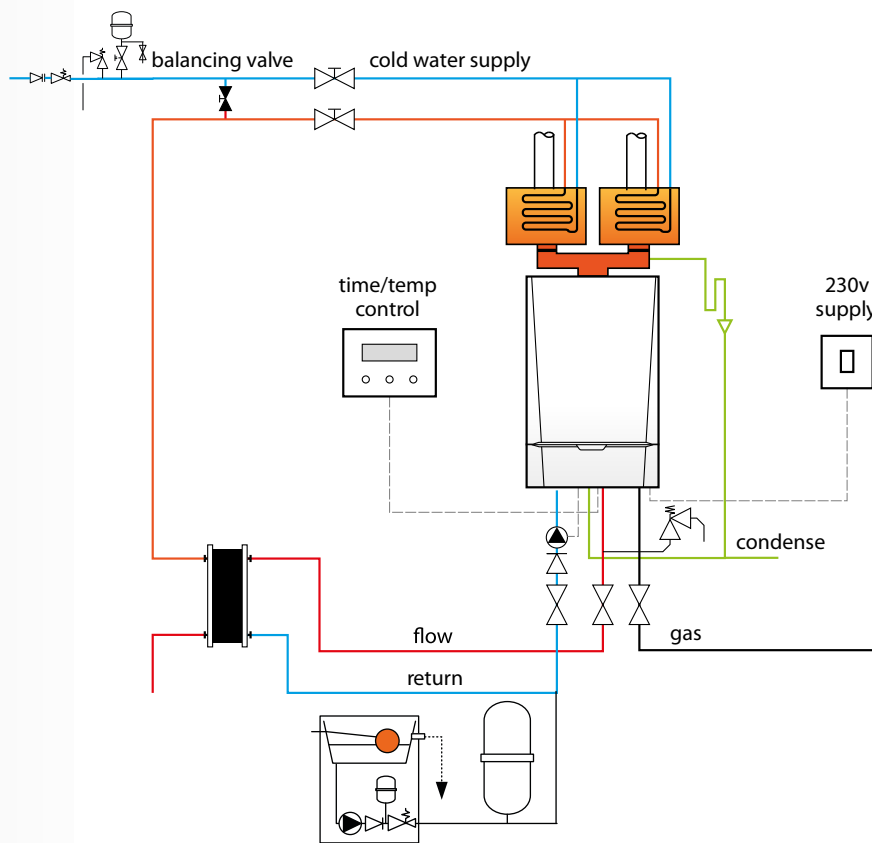
## Quinta Eco Plus (PFGHR) with pump option DHW and unvented calorifier



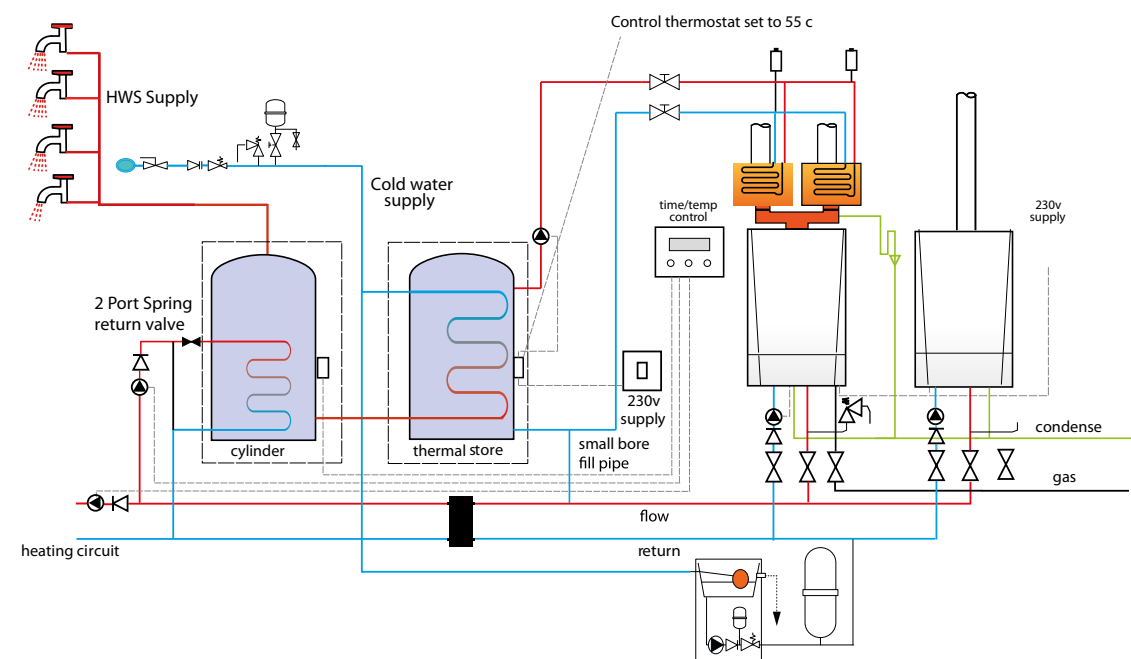
## Quinta Eco Plus (PFGHR) with Thermal Store/Accumulator



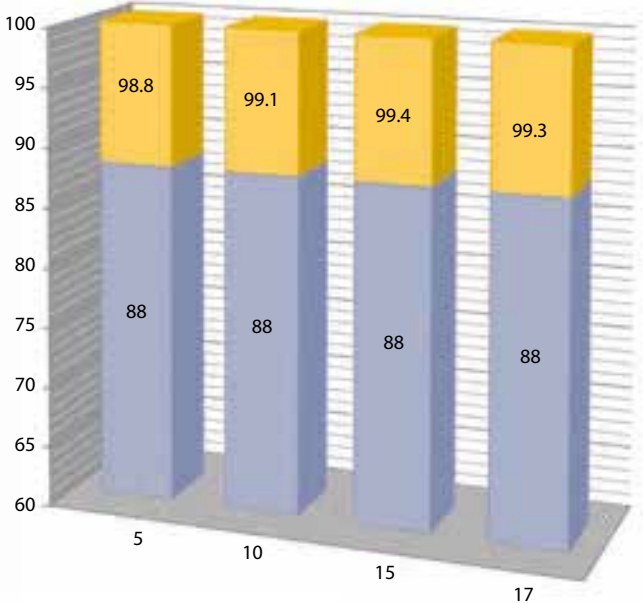
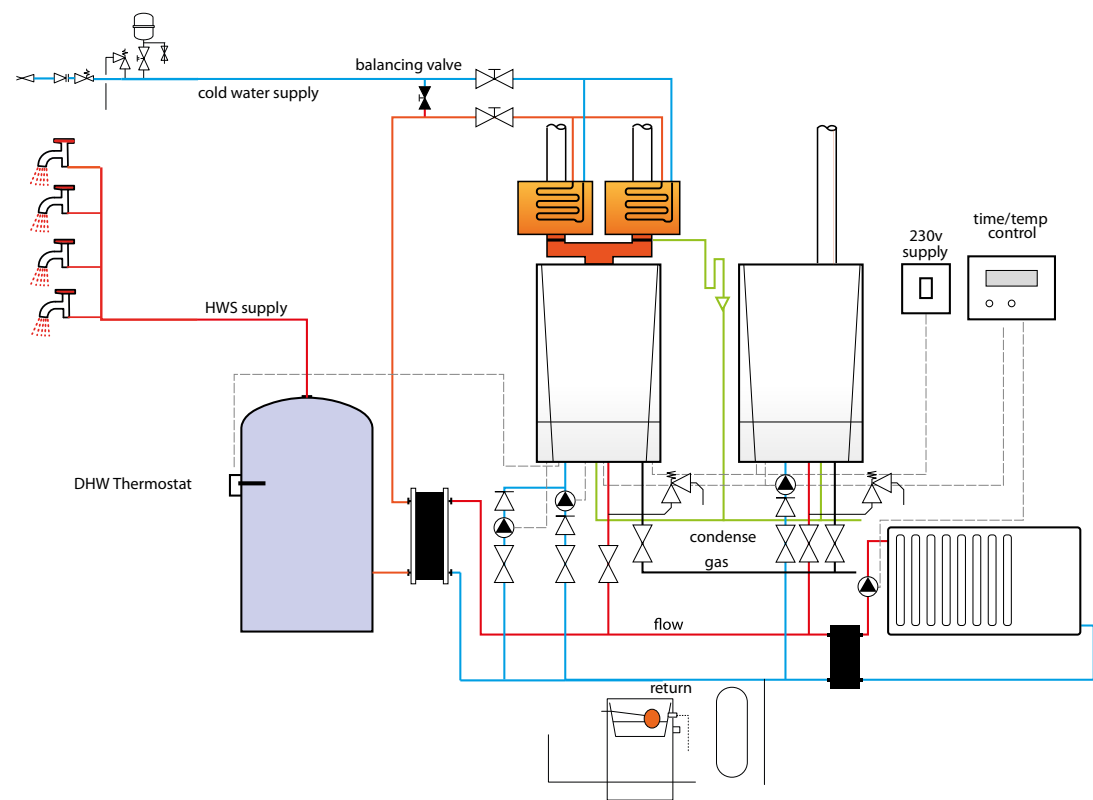
## Quinta Eco Plus (PFGHR) via a Plate Heat Exchanger



Split load Quinta Eco Plus and Quinta Pro with Thermal Store



Split load Quinta Eco Plus and Quinta Pro via a PHE



Quinta Eco Plus  
Quinta Pro Boiler

DHW flow rate l/m (80/60)°C. All efficiencies shown in GCV

Efficiency summary

Independent tests have demonstrated that the use of Passive Flue Gas Heat Recovery improved boiler performance in all areas of operation with no undesirable side effects. Across the full range of tests, the Quinta Eco Plus achieved an average efficiency of 99.5% (GCV).

This represents a significant energy saving when compared to the published efficiency figure of 88% at 80/60°C (GCV) for the standard Quinta Pro boiler.

Data log for Remeha Quinta Eco Plus Passive Flue Gas Heat Recovery test

| Heating Circuit Temperatures |          | Room Temp | Gas Rate | Calorific Value | Boiler Output | Standing Pressure | Working Pressure | Flow Rate | Quinta Pro Boiler | Quinta Pro Plus |
|------------------------------|----------|-----------|----------|-----------------|---------------|-------------------|------------------|-----------|-------------------|-----------------|
| Flow°C                       | Return°C | °C        | m³/min   | MJ/m³           | kW            | mbar              | mbar             | l/min     | % Efficiency      | % Efficiency    |
| 80                           | 63       | 20        | 0.167    | 38.8            | 100           | 20                | 17               | 5         | 88                | 98.8            |
| 80                           | 63       | 20        | 0.167    | 38.8            | 100           | 20                | 17               | 10        | 88                | 99.1            |
| 80                           | 63       | 20        | 0.167    | 38.8            | 100           | 20                | 17               | 15        | 88                | 99.4            |
| 80                           | 63       | 20        | 0.167    | 38.8            | 100           | 20                | 17               | 17        | 88                | 99.3            |

Efficiency results

| Temperatures °C Flow/Return | Efficiency in % |
|-----------------------------|-----------------|
| 80/63                       | 98.8            |
| 80/63                       | 99.1            |
| 80/63                       | 99.4            |
| 80/63                       | 99.3            |
| 53/49                       | 99.9            |
| 53/49                       | 99.9            |
| 53/49                       | 99.9            |
| 80/60                       | 99.4            |
| Average Efficiency          | 99.4625         |

Weight details

| Dry Weight      |        |         |
|-----------------|--------|---------|
| QEP 65          | QEP 90 | QEP 115 |
| 188kg           | 227kg  | 228kg   |
| Shipping Weight |        |         |
| 216kg           | 255kg  | 256kg   |

